



California Regional Water Quality Control Board

San Francisco Bay Region



Linda S. Adams
Secretary for
Environmental Protection

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VP
Arnold Schwarzenegger
Governor

JAN 04 2007

File No. 2119.1048

Certified Mail Nos.

7003 3110 0002 6556 8225
Tesoro Refining and Marketing Company
Attn: Mr. Hilding Spradlin
150 Solano Way
Martinez, CA 94553

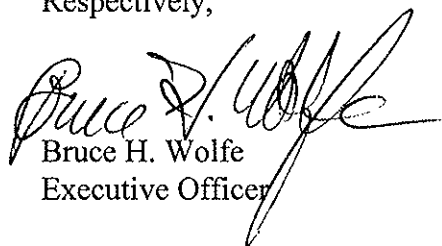
7003 3110 0002 6556 8232
ConocoPhillips
Attn: Mr. Mark Cohn
P.O. Box 2197
Houston, TX 77079-1175

SUBJECT: Cleanup and Abatement Order No. R2-2006-0087 for Property Located at the AMORCO TERMINAL

Gentlemen:

Attached is a copy of the subject Cleanup And Abatement Order I have signed. If you have any questions, please feel free to contact me at 510.622.2314, email bwolfe@waterboards.ca.gov or Mr. Vic Pal at 510.622.2403, email vpal@waterboards.ca.gov.

Respectively,


Bruce H. Wolfe
Executive Officer

Attachment: Cleanup and Abatement Order No. R2-2006-0087
Cc: w attach: Mailing List

MAILING LIST

Mr. Ray Saracino
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Mr. Mark Cohn
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Mr. Will Travis
SF Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111

Ms. June Catalano
City of Martinez
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Martinez, CA 94553

Mr. John Cullen
Contra Costa County
651 Pine Street, 11th Floor
Martinez, CA 94553

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2006-0087

**CONOCOPHILLIPS COMPANY (ConocoPhillips),
TESORO REFINING AND MARKETING COMPANY (Tesoro)**

for the property located at

**AMORCO TERMINAL AND ASSOCIATED OFFSITE FACILITIES
MARTINEZ
CONTRA COSTA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:

1. **Site Location:** The AMORCO Terminal and Associated Offsite Facilities (Site) is a 100-acre offsite property located as part of the 2,100-acre Golden Eagle Refinery in Martinez, California. The Site is located immediately south of the Benicia-Martinez Bridge, west of Highway 680, and north of Marina Vista Boulevard (Figure 1).
2. **Site History:** The Site was originally developed as a small refinery by the Bull's Head Oil Company in the late 1800s and has operated as a shipping/receiving terminal and/or petroleum storage facility since the mid-1970s. The Site currently consists of a wharf, with a wharf approach, pipelines, pumping facilities, and five petroleum Aboveground Storage Tanks (ASTs). The ASTs were originally constructed of steel in the 1920s and 1950s, and refurbished and returned to service in 2001. None of the AST's currently store MTBE or other fuel oxygenates.
3. **Reason for Order:** This Order sets forth tasks and time schedules for investigation and remediation of fuel oxygenate releases at the Site. The pollution emanating from the Site appears to be predominately methyl tertiary-butyl ether (MTBE), released from past historical operations at the Site. Other petroleum related pollutants will be evaluated pursuant to the Site Cleanup Requirements for this Site and the Golden Eagle Refinery adopted by the Board on March 15, 2000, (Order No. 00-021) that specified requirements to investigate releases at the AMORCO Terminal, and the Waste Discharge Requirements adopted by the Board on July 21, 2004, (Order No. R2-2004-0056).
4. **Named Dischargers:** Significant concentrations of MTBE have been detected in soil and groundwater at the Site. ConocoPhillips is named as a discharger because: (a) Tosco Corporation operated the facility from 1976 until September 2000, during the time that methyl tertiary-butyl ether (MTBE), a fuel oxygenate, was processed and stored at the Site; (b) Tosco Corporation was acquired by Phillips Petroleum Company in September

2001; and (c) Phillips Petroleum Company and Conoco subsequently merged into ConocoPhillips. Tesoro is named as a discharger because it is the current owner of the Golden Eagle Refinery property, which includes the Site on which there is an on-going discharge of waste, and Tesoro has knowledge and ability to control the discharge.

If additional information is received indicating that other parties caused or permitted any waste to be discharged on the Site where it entered or could have entered waters of the state, the Board will consider adding those parties' names to this order.

5. **Regulatory Status:** The Board adopted Site Cleanup Requirements for this Site on March 15, 2000, (Order No. 00-021) that specified requirements to investigate releases at the AMORCO Terminal. The Board also adopted Waste Discharge Requirements on July 21, 2004, (Order No. R2-2004-0056), which updated facility ownership and revised monitoring and closure requirements for the Golden Eagle Refinery.
6. **Site Hydrogeology:** The Site has a surface topography ranging from relatively flat, along the shoreline and marsh near the Carquinez Strait on the western portion of the Site, to steeply sloping hills, along much of the eastern and northern portions of the Site. Surface elevations range from about 70 feet above mean sea level near tank 80-B-30 to sea level at the wharf and marsh. Groundwater depth ranges from 1 foot below MSL to 31 feet above MSL.
7. **Remedial Investigation:** The pollution identified at the Site is methyl tertiary-butyl ether (MTBE). The initial release is from past operations at the Site. This Order designates two Operable Units (OUs) (Figure 2) to allow the dischargers flexibility for investigation and remedial planning purposes, given that each OU (OU-1 and OU-2) has its own set of constraints (accessibility, permits, etc.). This allows the dischargers the ability to develop remedial measures appropriate for each OU. Final cleanup standards have not been proposed, nor has an acceptable final remedy.
8. **Interim Remedial Measures:** Beginning in October 2006, the dischargers implemented an interim remedial measure (IRM) for the OU-1 portion of the Site. The IRM consists of extracting and treating contaminated groundwater, and then properly disposing or reusing this treated groundwater. Such mass removal at OU-1 should significantly reduce the threat of pollutants discharging to the Bay, but does not constitute a final and comprehensive remedy for the entire Site. The IRM is time critical and is an emergency action. Although a significant interim remedial measure is being implemented at OU-1, other areas of the Site impacted by the MTBE plume are not included in the ongoing IRM, and have not been fully investigated. Interim remedial measures need to be implemented at OU-2 to reduce the threat to water quality, public health, and the environment posed by the discharge of contaminants and to provide a technical basis for selecting and designing final remedial measures.
9. **Adjacent Sites:** No adjacent sites are within 1000 feet of the Site.

10. **Basin Plan:** The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on January 21, 2004. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Board and the Office of Administrative Law on July 22, and October 4, 2004, respectively, and approved by the U.S. Environmental Protection Agency, Region IX on January 5, 2005. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater.

The potential beneficial uses of groundwater underlying and adjacent to the site include:

- a. Municipal and domestic water supply
- b. Industrial process water supply
- c. Industrial service water supply
- d. Agricultural water supply
- e. Freshwater replenishment to surface waters

The existing and potential beneficial uses of Carquinez Strait include:

- a. Municipal and domestic supply
- b. Agricultural supply
- c. Industrial process supply or service supply
- d. Groundwater recharge
- e. Water contact and non-contact recreation
- f. Wildlife habitat
- g. Cold freshwater and warm freshwater habitat
- h. Fish migration and spawning
- i. Navigation
- j. Estuarine habitat
- k. Shellfish harvesting
- l. Preservation of rare and endangered species

11. **Other Board Policies:** Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.

Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high total dissolved solids (TDS), low yield, or naturally-high contaminant levels.

12. **State Water Board Policies:** State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this cleanup and requires cleanup and abatement of the effects of a discharge in a manner that promotes attainment of either background water

quality, or the best water quality which is reasonable if background levels of water quality cannot be restored. Cleanup to levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in water quality less than prescribe in the Basin Plan and policies adopted by the State and Region Water Boards. This Order does not yet prescribe clean-up levels, but requires the dischargers to investigate whether cleanup to background levels is feasible.

13. **Preliminary Cleanup Goals:** The dischargers will need to make assumptions about future cleanup standards for soil and groundwater, in order to determine the necessary extent of remedial investigation, interim remedial actions, and the draft remedial action plan. Pending the establishment of site-specific cleanup standards, the following preliminary cleanup goals should be used for these purposes:
 - a. Groundwater: Applicable water quality objectives (e.g., lower of primary (toxicity) and secondary (taste and odor) maximum contaminant levels, or MCLs) or, in the absence of a chemical-specific objective, risk-based levels (e.g., equivalent drinking water levels based on toxicity and taste and odor concerns).
 - b. Soil: Applicable screening levels such as those compiled in the Board's draft Environmental Screening Levels (ESLs) document or its equivalent. Soil screening levels are intended to address a full range of exposure pathways, including direct exposure, indoor air impacts, nuisance, and leaching to groundwater.
14. **Basis for 13304 Order:** California Water Code Section 13304 authorizes the Board to issue orders requiring a discharger to cleanup and abate waste where the discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance. Both dischargers have caused or permitted waste to be discharged into waters of the State that have created and threaten to create a condition of pollution or nuisance.
15. **Cost Recovery:** Pursuant to California Water Code Section 13304, the dischargers are hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.
16. **CEQA:** This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the CEQA Guidelines (at Cal. Code. of Regs., title 14, sec. 15000 et seq.).

17. **Notification:** The Board has notified the dischargers and all interested regulatory agencies of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

IT IS HEREBY ORDERED, pursuant to Sections 13304 and 13267 of the California Water Code, that the dischargers (or their agents, successors, or assigns) will cleanup and abate the effects described in the above findings and submit technical reports as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.
2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. TASKS

1. REMEDIAL INVESTIGATION WORKPLANS

COMPLIANCE DATE: 1) For OU-1 Area, Workplan already submitted as part of Task 3
 2) For OU-2 Area, May 15, 2007

Submit technical reports acceptable to the Executive Officer, containing remedial investigation workplans sufficient to complete the Remedial Investigation for the Site. The investigation proposed must be capable of determining the lateral and vertical extent of fuel oxygenate soil and groundwater pollution. The workplans shall contain schedules for implementation and reporting acceptable to the Executive Officer that defines the vertical and lateral extent of fuel oxygenate soil and groundwater pollution.

2. COMPLETION OF REMEDIAL INVESTIGATION

COMPLIANCE DATE: 1) For OU-1 Area, September 28, 2007
 2) For OU-2 Area, May 30, 2008

Submit remedial investigation reports, acceptable to the Executive Officer, containing the results of the investigations defining the extent of fuel oxygenate soil and groundwater pollution.

3. **INTERIM REMEDIAL ACTION WORKPLAN AND SCHEDULE**

COMPLIANCE DATE: 1) For OU-1 Area, Report submitted in September 2006
2) For OU-2, March 28, 2008

Submit a workplan acceptable to the Executive Officer to evaluate interim remedial action alternatives and to recommend one or more alternatives for implementation. The workplan shall include an implementation schedule. Work may be phased to allow the investigation to proceed efficiently. If groundwater extraction is selected as an interim remedial action, then one task shall be the completion of an National Pollutant Discharge Elimination System (NPDES) permit application for discharge of extracted, treated groundwater to waters of the State. The application shall demonstrate that neither reclamation nor discharge to the sanitary sewer is technically or economically feasible. All regulatory permits needed to implement the workplan shall be obtained prior to Task 4.

4. **INTERIM REMEDIAL ACTION PLAN REPORT**

COMPLIANCE DATE: According to the Implementation Schedule as approved by the Executive Officer in Task 3

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 3 workplan. For ongoing actions, such as soil vapor extraction or groundwater extraction, the report shall document start-up as opposed to completion.

5. **REMEDIAL ACTION PLAN INCLUDING DRAFT CLEANUP STANDARDS**

COMPLIANCE DATE: 1) For OU-1 Area, February 22, 2008
2) For OU-2 Area, August 1, 2008

Submit a technical report acceptable to the Executive Officer containing:

- a. Results of the remedial investigation
- b. Evaluation of the installed interim remedial actions
- c. Feasibility study evaluating alternative final remedial actions
- d. Health and environment risk analysis for current and post-cleanup exposures
- e. Recommended final remedial actions and cleanup standards
- f. Implementation tasks and time schedule

Item c shall include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Items a through c shall be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), CERCLA guidance documents with respect to remedial investigations and feasibility studies, Health and Safety Code Section 25356.1(c), and State Water Board Resolution No. 92-49 as amended ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304").

Item e shall consider the preliminary cleanup goals for soil and groundwater identified in finding 13 and shall address the attainability of background levels of water quality (see finding 12).

It may be that some degree of residual pollution (that which cannot reasonably be removed) may have to remain in place. The Executive Officer will determine what reasonable removal is for each OU based on applicable laws and regulations, including State Water Board Resolution 92-49.

Additionally, the Remedial Action Plan (RAP) shall notify the public of proposed cleanup actions (fact sheet) for the Site. If the public is concerned about proposed cleanup actions, a public meeting shall be held prior to the technical report submittal for this Task.

6. **REMEDIAL ACTION PLAN IMPLEMENTATION REPORT**

COMPLIANCE DATE: 1) For OU-1 Area, July 10, 2009
 2) For OU-2 Area, November 16, 2009

Submit a technical report acceptable to the Executive Officer documenting completion of scheduled events as outlined in Task 5. Additionally, this report shall include a Self Monitoring Report and Schedule that documents which wells shall be sampled, at what frequency, and for which pollutants.

7. **Delayed Compliance:** If the dischargers are delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the discharger(s) shall promptly notify the Executive Officer, who may consider revision to this Order. The dischargers may request, individually or jointly and in writing, a time extension. The extension request shall be submitted at least fifteen (15) days in advance of the due date and shall include justification for the delay including the good faith effort performed to achieve compliance with the due date. The extension request shall also include a proposed time schedule with new performance dates and the due date in question and all subsequent dates dependent upon the extension.

Approval of any properly submitted extension request shall be within the sole discretion of the Water Board or Executive Officer.

C. GENERAL PROVISIONS

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater will not create a nuisance as defined in California Water Code Section 13050(m).
2. **Good Operation and Maintenance (O&M):** The dischargers shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.
3. **Cost Recovery:** The dischargers shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board and its staff to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the Site addressed by this Order is enrolled in a State Water Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the dischargers over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the dischargers shall permit the Board or its authorized representative:
 - a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the requirements of this Order.
 - c. Inspection of any monitoring or remediation facilities installed in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger(s).
5. **Self-Monitoring Program:** The dischargers shall comply with a Self-Monitoring Program which may be amended by the Executive Officer.

6. **Contractor / Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.
7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved U.S. EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g., temperature).
8. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
 - a. City of Martinez
 - b. County of Contra Costa County
 - c. U.S. Environmental Protection Agency, Region 9
 - d. San Francisco Bay Conservation and Development Commission

The Executive Officer may modify this distribution list as needed.

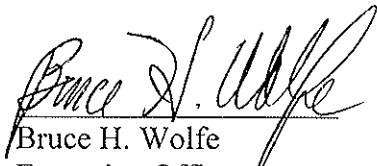
9. **Reporting of Changed Owner or Operator:** The discharger(s) shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.
10. **Electronic Reporting Format:** In addition to print submittals, all reports submitted pursuant to this Order shall be submitted as electronic files in PDF format. The Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public, during file reviews conducted at the Board's office. PDF files can be created by converting the original electronic file format (e.g., Microsoft Word) and/or by scanning printed text, figures & tables. Upon request by Board staff, monitoring results, including water level measurements, sample analytical results, coordinates, elevations, etc., shall be provided electronically in Microsoft Excel® or similar spreadsheet format. This format facilitates data computations and/or plotting that Board staff may undertake during their review. Data tables submitted in electronic spreadsheet format will not be included in the case file for the public. All electronic files, whether in PDF or spreadsheet format, shall be submitted via the Board's file transfer protocol (FTP) site, email (only if the file size is less than 3 MB) or on CD. CD submittals may be included with the print report. Email notification should be provided to Board staff whenever a file is uploaded to the Board's FTP site.

11. **Reporting of Hazardous Substance Release:** If, on or after the effective date of this Order, any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the dischargers will report such discharge to the Board by calling (510) 622-2369 during regular office hours (Monday through Friday, 8:00 to 5:00).

A written report shall be filed with the Board within five working days. The report will describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

12. **Periodic CAO Review:** The Board or the Executive Officer will review this Order periodically and may revise it when necessary. The dischargers may individually or jointly request revisions, and upon review the Executive Officer may revise these requirements.


Bruce H. Wolfe
Executive Officer

JAN 04 2007

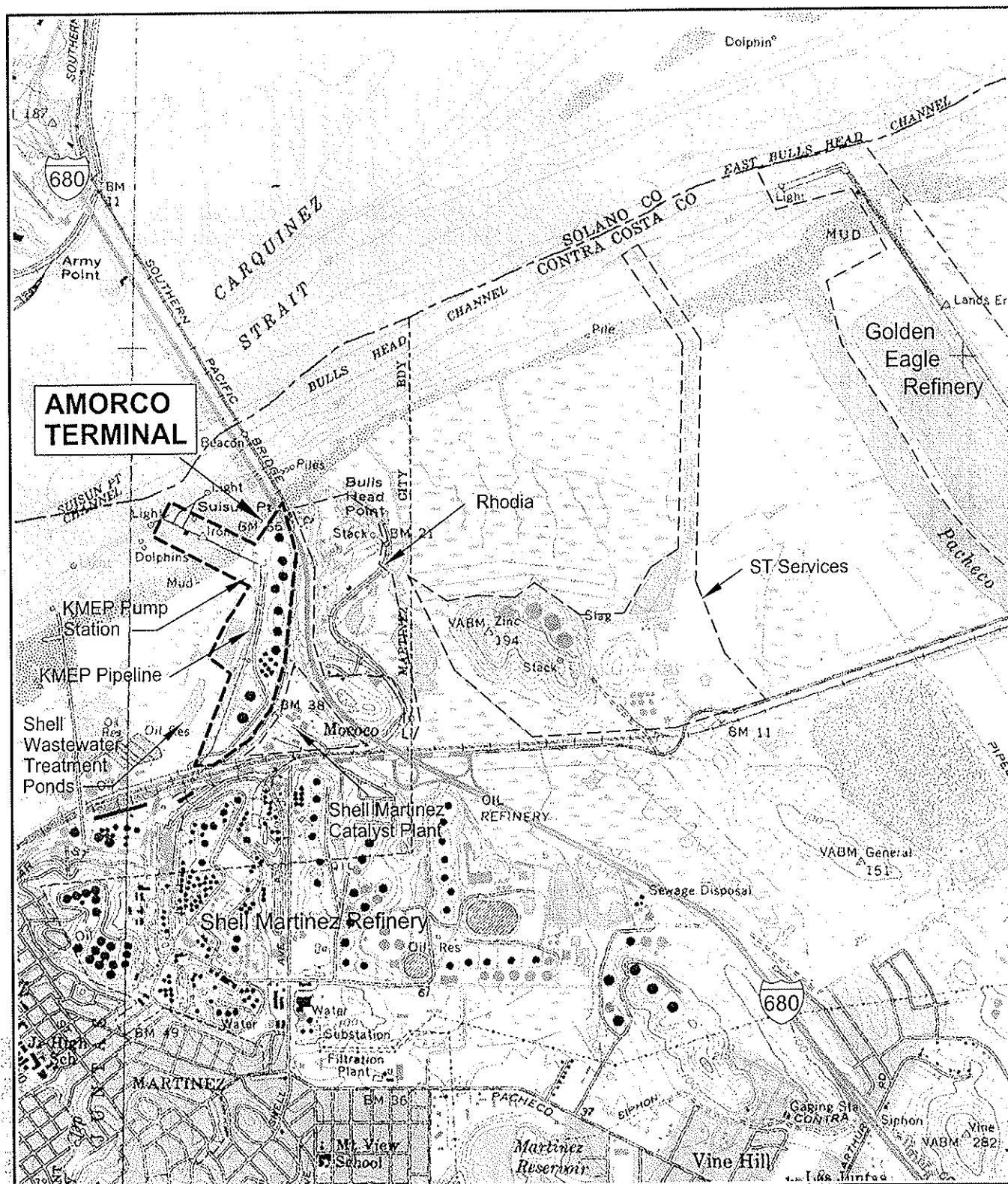
Date

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

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Attachments: Figures 1 and 2



Source

U.S.G.S. 7.5' Quadangle
Vine Hill, California
Photorevised 1980

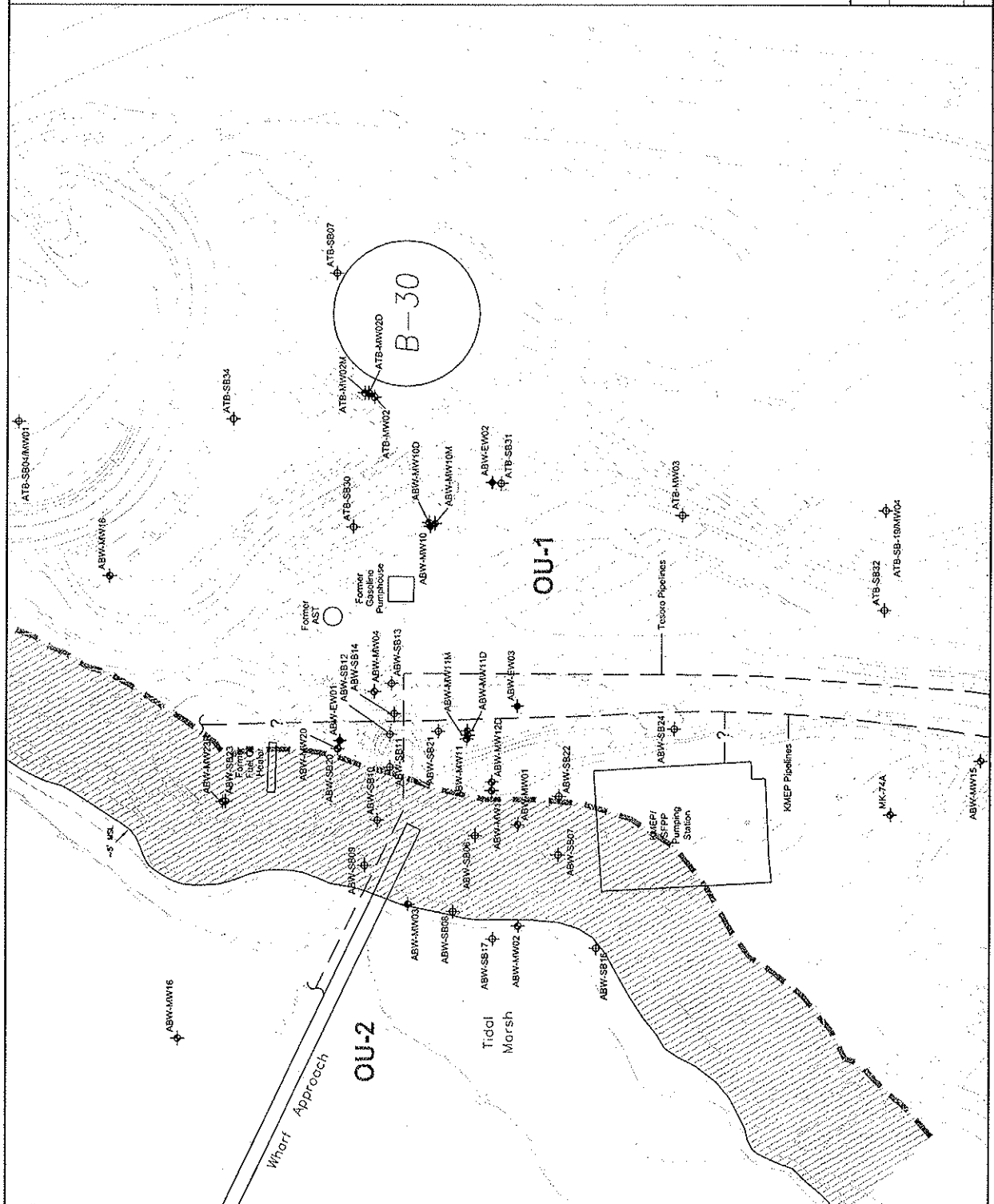
KMEP = Kinder Morgan Energy Partners
ST = Shore Terminals

Boundaries are Approximate



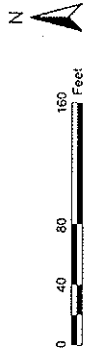
Tesoro Refinery Amorco Terminal
Martinez, California

Figure 1
Amorco Terminal
Site Location Map



Legend

- Monitoring Well
- Extraction Well
- Temporary Monitoring Well
- Temporary Piezometer
- Approximate Pipeline Locations
- 100 ft Band from +S MSL
- Operable Unit Boundary



Tesoro Refinery Amcorco Terminal
Martinez, California

Figure 2
Amorco Exploration Map